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ORIGINAL ARTICLES.

GLAUCOMA IN A GIRL EIGHTEEN YEARS OF AGE.

BY S. C. AYRES, M.D., CINCINNATI, OHIO.

Glaucoma so seldom occurs in a young person that I deem the following case of sufficient importance to report.

The patient was a German girl in excellent health, but she stated that for two or three years her sight had been failing. She had received no treatment of any kind and her eyes had not been examined until she was admitted into the St. Marys Hospital in October. In the right eye there was no perception of light. The tension was increased (+ 1), pupil dilated, fixed, and the eye diverged slightly.

There was a deep excavation of the disc and a ring of choroidal atrophy surrounding it. The most remarkable feature of the case was the size of the optic disc. It appeared less than half the normal size. It presented an appearance of a constriction of the scleral ring around the optic nerve.

In the left eye the pupil was dilated but responded very

sluggishly to light, the nasal side of vision was abolished but she still saw on the temporal side, and vision was reduced to 0.05. Under the influence of eserine vision improved considerably, the pupil responded to the myotic and tension became normal. The optic disc here presented an appearance similar to the right eye. There was a ring of atrophy around the disc, and the optic nerve presented an abnormally small diameter. The patient was promptly taken out of the hospital when a proposition to make an iridectomy was made to her parents.

TWO CASES OF GONORRHŒAL IRITIS.

BY ADOLF ALT, M.D.

Although the fact, that iritis may follow gonorrhœa of the sexual organ has been well established by a number of observers, the literature is not very rich in descriptions of single observations. The following two cases are not the only ones, that I have seen, but they were seen by me during their whole course and seem to be interesting enough to be here reported.

CASE I.—February 12, 1899, I was sent for to see J. H., æt. 17, a strong, well-built young man. I found him suffering from gonorrhœal conjunctivitis in both eyes. He stated to me that he had been under treatment for gonorrhœa of the urethra for three weeks which was followed by intense articular rheumatism a week after the gonorrhœa had made itself known to him. This rheumatism befell first the knee-joints, which were greatly swollen, when I first saw him, it then wandered to the hip-joints, then the shoulders, and elbows and wrists, and finally, but very slowly disappeared. It was as intensely painful as any articular rheumatism, I have ever seen, and the patient was not only utterly helpless but he gradually become enormously weakened and emaciated.

The gonorrhœal infection of the eyes had taken place in the third week, that is a week before I saw him. Under the local applications of a corrosive sublimate wash and nitrate of silver the lids improved steadily. While this improvement was going on several small marginal ulcers appeared in both corneæ, and in the right cornea a larger crescentic ulcer came near perforating. I discharged him March 6, that after is three weeks' treatment, in good condition. At that time the articular rheumatism was still troubling him greatly.

March 24, I was again called to see him. He complained now of considerable pain in the right eye, photophobia and lachrymation. I found the pupil small and immoveable, but comparatively little ciliary injection. I at once dilated the pupil and maximum. Several small pigment spots on the anterior lens capsule remaining behind, showed that although but a few hours had elapsed since the patient was aware of some new affection of the eye, several synechiæ had been formed. The attack of iritis proved to be a mild one and readily yielded. The knees and wrists were at that time still swollen.

CASE II.—February 10, 1891, W. R., æt. 20, was brought to my office by his family physician on account of a very painful eye affection which then had been in existence for a week. Four weeks before his first visit to me he had for the first time noticed the infection of his urethra and one week after that he had been attacked by severe articular rheumatism which, however, affected both knee-joints only. I found a very severe plastic iritis, which in the right eye only was very painful. The pupil never became perfectly round, some adhesions being too strong to give way to the atropine. Still under the use of the mydriatic and the internal exhibition of salicylate of sodium, the eye trouble subsided and was brought under control before the rheumatism was well. I was able to discharge him five weeks after his first visit to me.

The first of these two cases is somewhat uncommon by the fact, that gonorrhœal conjunctivitis and ulcers of the cornea had preceded the iritis. It is not to be denied, that the infection of the iris may have been brought about by the direct entrance into it of the virus from the corneal tissue. In the seccase the infection of the iris occurred without the previous formation of a focus of infection in its immediate neighborhood.

CORRESPONDENCE.

OPHTHALMOMETRY IN THE UNITED STATES AND ITS CHAMPIONSHIP.

To the Editor of the AMERICAN JOURNAL OF OPHTHALMOLOGY:

SIR.—It is a matter of small concern probably to the profession at large as to who shall have the honor of being the champion of ophthalmometry in this country. It seems, however, that it is a matter of a good deal of concern among a set of oculists in New York and they do not seem backward about making themselves heard in regard to it.

Dr. Davis, in a communication in the New York *Medical Journal* for December 24, 1892, is very decidedly of the opinion that it belongs to Dr. D. B. St. John Roosa, of New York, and he has stated without reserve the reasons for the faith that is in him. Other people have other preferences in the matter of championship, and one or two have happened to mention, casually, in some papers they have written on the subject of ophthalmometry, that I myself did some work with the instrument several years ago, and that I did not hesitate to say on several occasions, in print, how very good an instrument I regarded it, and how very important it was in working out astigmatism. *Hinc illæ lacrymæ.*

My first statement to that effect was made in an article on "Ophthalmometry with the Ophthalmometer of Javal and Schiœtz," etc., in *Knapp's Archives*, 1885, Nos. 2 and 3. I said there, after a constant use of the instrument for six months, that "I consider it the most practical of all the instruments of precision we have in the diagnosis of astigmatism." It would appear further, that even at that remote period, the instrument had been removed (by me at least) from the limbo of being a

mere "scientific toy," for I say that "I could hardly imagine a practicing oculist who could not manipulate the instrument with success, certainly to the extent of detecting an astigmatism of 0.5 D."

This article, it is true, was not published in the daily papers, nor in a popular monthly magazine, but in the *Archives of Ophthalmology*, which is, or should be, on the table of every practicing oculist in this country, and it was intended to reach those whom it most concerned. I said other things about the instrument which were intended to be complimentary and at the same time truthful and demonstrable. My teachers, Mr. Editor, had always tried to impress upon my mind the fact that unrestrained enthusiasm was a bad thing for science—a sort of boomerang, which came back at inopportune moments and caused you to dodge ungracefully; and I have never been sorry when I have heeded their wise council.

I chanced to publish a "Treatise on Astigmatism" about two years after that (in 1887), and in giving what I believe is the first description of the instrument in English, I felt warranted in saying, among other things, from my further experience, "that in my estimation it must be regarded as the most important, practical and exact means of diagnosis given to our science since the invention of the ophthalmoscope" (page 124). Dr. Davis looks upon this in the light of "faint praise." *Que voulez vous?* I did not print it in red letters, nor yet in capitals or italics. There are some things, Mr. Editor,—particularly very patent facts—which I prefer to leave, without marked insistance, to the intelligent comprehension of the reader.

If my information is correct, this was two years before the appearance of the "New Model," and while the ophthalmometer was still, according to Dr. Davis, "a descredited instrument." Later (in 1888), I read before the American Ophthalmological Society a paper containing "An analysis of the refraction of 576 healthy human corneæ examined with the ophthalmometer of Javal and Schiœtz." In this I showed how all but a very small proportion of astigmatism was corneal and

how invaluable a means for its detection was the ingenious apparatus of Javal. This paper was published in the Transactions of that year. Subsequently to this I have published, at various times and in sundry places, other papers on the same subject, giving the results of my experience with the instrument and always speaking of it in great praise and in thankfulness to its clever inventor who has become my personal friend.

Now it is possible that none of these communications during this period reached the eye of either Dr. Roosa or Dr. Davis. Life in the great metropolis is carried on under so great a pressure that it sometimes happens that concentrated attention to matters of local moment prevent some of our New York brothers from having a knowledge of the unimportant and insignificant things that come from the outside. But I am a little sorry that neither Dr. Roosa nor Dr. Davis happened upon these papers, for if they had read them at the time with an open mind they might have been led to a knowledge of the great value of the ophthalmometer and have begun its use several years ago and given their patients the benefit of its employment, the lack of which must be a source of great sorrow to them now.

It must be admitted however, that Dr. Davis now, for the first time, concedes the priority of first description and first use of the ophthalmometer to the Barbarian outside the walls, and hinges the whole of his argument for the championship on the fact that the Greek has chosen to make it his own (in the usual way), has set the stamp of his approval upon it and has announced the fact with a flourish of trumpets of no uncertain sound, putting no limitations upon the instrument either possible or actual—in political parlance, "claiming every thing."

Proselytes and new converts are always most vociferous in their praises of the new found Gods.

Ideas of what it takes to constitute a championship may be widely different. It is largely, it must be confessed, too, a matter of taste. One conception would be to strip to the waist *à la* Prof. John L. Sullivan, "wade in" and "put a head

on" any one who refuses to recognize the omnipotence of the ophthalmometer, and Dr. Roosa as its Prophet.

This would seem to be Dr. Davis' idea.

Another plan is to set forth the actual value of the instrument in a calm and deliberate manner, paying due regard to what it can do and what it cannot do; "nothing extenuate nor set down aught in malice." True science has a negative as well as a positive side, and Truth is comprehended between the two. This latter method, which in my humble efforts I have tried to follow has also been used by Drs. De Schweinitz, Eaton, Koller, Noyes, Valk, Woodward, and some others who have written and spoken upon the ophthalmometer in this country, and to these men is due in a large measure the present proper esteem in which the instrument is held in America.

The championship of ophthalmometery in America does not belong to any one man. I distinctly repudiate it for myself in any limited or personal sense; and I have not allowed any of my pupils or assistants to claim it for me. I only claim that I knew a good thing when I saw it, and hastened to tell my fellow-workers how very valuable I deemed it and asked them to try it for themselves.

But if we are to have a champion (and Dr. Davis seems to think we must), we would probably come nearer a choice if we left it to the best authority on the ophthalmometer, we have—none other than the inventor of the instrument—Dr. Javal himself.

He has spoken on the subject, for in his *Memoires d'ophthalmometrie*, published in Paris, in 1891, in the preface, on page vi, we find the following which, in deference to my modesty, I trust you will allow me to quote in the original:

"En parcourant ce volume on s'apersevra bientôt que l'ophthalmometrie clinique doit son progrés en Amerique à M. Swan M. Burnett, que s'en est fait le premier champion."

But perhaps Dr. Davis is not willing to recognize Dr. Javal as an authority on championships. However, I fear that, considering we have no higher court of appeal, we shall have to let it rest at this.

And I should be glad to allow the whole matter to pass out of sight at this closure of the case, were it not that among the many mis-statements and misrepresentations in Dr. Davis' letter there are two or three of such quality and magnitude that I cannot permit them to go by without a protest and a flat denial, partly from scientific and partly from personal reasons.

I do not allude to the attempt to associate in the same category Dr. Landolt, who is not an advocate or a friend of the instrument, and myself who am both, by garbled extracts from our writings. This is so clumsily done that its animus is apparent upon the face of it, and it is a sufficient answer to itself. But when he goes on further and says that "in fact Burnett, in his first paper on ophthalmometry, gave drawings made from measurements of the cornea by the disc of Placido; in some respects he claimed it to be superior to the ophthalmometer," the long suffering of the Barbarian even must give way. I will quote, Mr. Editor, exactly what I did say, and what can be found on page 171 of that paper: "No other form of keratoscopy can be compared to it (the ophthalmometer) for precision and accuracy. I have used Placido's disc and Wecker's Squares, but must confess that I found them worthless in regular astigmatism." The statement of Dr. Davis is wholely the product of his fertile imagination. The drawings referred to were of a case of keratoconus of remarkable regularity which could be shown graphically only by means of the keratoscopic drawings. The measurements of the ophthalmometer, which furnished a clue to the regular astigmatism associated with it, are given, however, with laudatory praises of the instrument without the aid of which it could not have been done.

Moreover, when he says that "Dr. Roosa took a discredited instrument and brought it into wide use and good repute," there is an implied imputation and slur upon some of our best workers and most esteemed practitioners for which there can be no defense. Who brought it into discredit? Dr. Roosa's use of the instrument began three years ago or less, but if either he or Dr. Davis had taken the trouble to walk a few blocks to the office of Dr. Noyes in New York, even so far

back as in 1885, they would have found that he was doing some very creditable work with it indeed, even with the old model, as good work as has been done with the new model any where to-day. Indeed, I am of the opinion that Dr. Noyes was the first on the Atlantic coast to use the ophthalmometer regularly, certainly as early as any; as Dr. Martinache, I have been told, was the first to use it on the Pacific coast. Dr. Noyes' first public advocacy of the instrument, was, I think, in 1888, but he has since that time never allowed an opportunity to pass without stating in forcible language his high appreciation of the ophthalmometer as a practical instrument. Certainly Dr. Noyes' advocacy of the ophthalmometer cannot be considered "discreditable" nor can that of Dr. Koller, who imported his enthusiasm for it with him from Europe, whence he came in 1887.

It may be well to communicate, just here, some facts which may prove important information for some who are really in search of it, and that is that the scientific principles of the ophthalmometer are precisely the same in the new and in the old model. If any one understands the one he understands the other; and though Dr. Davis seems to know that I have never used the new model, I have to inform him that I have not only used it but have instructed a number of novices in its employment. Furthermore, I have no hesitation in saying that in some particulars (for instance in the matter of getting the meridians exactly), the older form is the better, and in this opinion I am backed by one near the throne at Paris; and some in this country who have used both models would be glad to get one of the old if they could. The change to the new model was not wholly a matter of scientific necessity, as some of us happen to know.

But the real claim to a championship is, I suppose, set forth in the closing paragraph: "It was Dr. Roosa who took the perfected instrument and by his unceasing advocacy of it, both in writing and teaching, demonstrated its great practicability not only in cases of aphakia, *but in all cases of refraction.*" Italics his. The only thing that we can infer from this is that

Dr. Roosa holds that the instrument is practicable for the detection and diagnosis of hypermetropia, myopia and general astigmatism as well as corneal astigmatism; certainly that can be the only signification of "all cases of refraction."

I do not think that any one who has any knowledge of physiological optics or of the principles of the ophthalmometer will dispute with Dr. Roosa for the championship of that claim. If he can do all which that claim implies we will willingly and gladly crown him King of Ophthalmometrists, and hasten to make pilgrimages to New York to sit at his feet and learn. But we must bring this already too long communication to a close, though in doing so I would ask you to allow me to point the moral which should adorn any tale worth the telling, and it is this:

Firstly. Let the ophthalmological Youth first make himself familiar with the facts and then not tamper with them overmuch.

Secondly. Let him not presume too greatly on the ignorance, stupidity or forbearance of the Barbarian.

I am, sir, yours most truly,

SWAN M. BURNETT.

Washington, December 28, 1892.

OPHTHALMOMETRY IN AMERICA.

[We reprint in the following the letter referred to by Dr. Burnett in order to afford the reader an intelligent understanding.]

To the Editor of the *New York Medical Journal:*

SIR.—In the *New York Medical Journal* for November 19th, under the heading of Ophthalmometry in America, you have published the introductory historical remarks of a lecture on Corneal Astigmatism, presented at a meeting of the Philadelphia County Medical Society, on October 26th, by Dr. G. E. de Schweinitz, of Philadelphia. In these remarks Dr. Swan M. Burnett, of Washington, is characterized as the "champion

of ophthalmometry in America." It is with all that candor and fairmindedness due one professional brother from another that I am obliged to dissent from the claim made by Dr. de Schweinitz, and to ask you to allow me to give my reasons for so doing.

While undoubtedly to Dr. Burnett belongs the honor of having *first* used the ophthalmometer (old model, he never having used the new model so far as my knowledge goes; at least, he has given no description of it), and also of having *first* written upon the subject of ophthalmometry in America, he has by no means and in no sense been its *champion*, nor did he popularize the instrument as it now is. The honor of the championship of ophthalmometry belongs to another man—to D. B. St. John Roosa. As everybody knows, a champion for anything is one who contends for it, not one who simply describes it. The latter is what Dr. Burnett did for the ophthalmometer. It was faint praise he gave it. Never did he claim that its use surpassed other methods of measuring astigmatism, especially the astigmatism of the eye as a whole. Dr. de Schweinitz's words themselves constitute Dr. Roosa the champion when he describes what he has written in behalf of the ophthalmometer as "an earnest advocacy of its employment—an advocacy that has never ceased, and has never been couched in words of an uncertain tone."

The instrument—the old model—when first shown by Javal and Schiötz in 1881, in London, and later when used in America, seems to have been regarded by those who saw it, and even by those who used it, as a scientific toy. Certainly but little more value was given it than to the disc of Placido or the squares of De Wecker. In fact, Burnett, in his first paper on ophthalmometry, gave drawings made from measurements of the cornea by the disc of Placido. In some respects he claimed it to be superior to the ophthalmometer. Two years later, in his *Treatise on Astigmatism*, when describing the ophthalmometer, in one paragraph he declares "the value of this keratometer in the diagnosis of astigmatism can hardly be overestimated," while in the preceding paragraph he says: "As it

is not possible with this instrument to examine with any degree of accuracy the lenticular surfaces, and as these form important elements in the general optical condition of the eye, the apparatus is of limited advantage in obtaining the refraction of the eye as a whole, except in cases of aphakia. Its usefulness for estimating general ametropia is still further diminished by the fact, which the instrument itself has done so much to establish, that the conditions of myopia and hypermetropia are not due, except in rare instances, to variations in the refracting surfaces of the eye, but to changes in the antero-posterior diameter of the eyeball."

This paragraph certainly shows lack of faith in the instrument except in cases of aphakia, and in this respect Burnett's opinion coincides with that of Landolt, who does not use the ophthalmometer at all, I believe, and has just as little faith in it, except in cases of aphakia, as Burnett, as is shown by a quotation from him (Landolt) made by Dr. F. B. Eaton, of Portland, Oregon, in a recent article,[1] as follows: "These instruments may render service when the dioptric system of the eye is reduced to the cornea alone, in aphakia. But in an immense majority of cases the determination of the curvature of the cornea is far from sufficient to acquaint us with the amount of astigmatism." Then Dr. Eaton goes on to say himself: "Later clinical experience of many observers proves that the above statement is incorrect, for, on the contrary, it is known now that in the great great majority of cases all but one-half of one diopter of the astigmatism is caused by unequal corneal curvature."

If this is so, as it certainly is, then it is unfortunate for Burnett, as a champion, that, in regard to "obtaining the refraction of the eye as a whole" with this instrument, his opinion and his words are nearly identical with those of Landolt, who is anything but a champion. Compare quotations from each. Burnett: "The apparatus is of limited advantage in obtaing the refraction of the eyes as a whole, except in cases of aphakia."

[1]Medical Record, Nov. 12, 1892, p. 573.

Landolt: "These instruments may render service when the dioptric system of the eye is reduced to the cornea alone, in aphakia."

The honor of having championed and popularized the ophthalmometer in America belongs to Dr. Roosa. It was introduced to the profession by those to whom we shall always be ready to give honor. But, as they themselves did not believe in the value of the instrument except in a very limited way—much below what Javal and Schiötz claimed for it—it is no wonder that the introduction was forgotten and the instrument generally consigned to the limbo of obscurity. It was scarcely noticed by oculists in general. It was taken for granted from the method of its introduction that it was not at all an essential instrument, as is now claimed.

Dr. Roosa took a discredited instrument and brought in into wide use and good repute. No one, I think, will, or can for that matter, claim that the old instrument was in any sense a popular one in America, it being only in the offices, so far as I can learn, of not more than six oculists—certainly not more than twelve—and in some of these offices was put aside in the lumber room. That the new modeled instrument could have been popularized from a description of the old is out of the question. I doubt very much if the new instrument could be used at all from the description of the old, and I am sure it could not be accurately employed.

It was Roosa who took the perfected instrument, and by his unceasing advocacy of it, both in writing and in teaching, demonstrated its great practicability, not only in cases of aphakia, *but in all cases of refraction.*

December 1, 1892. A. E. DAVIS, M. D.

SOCIETY PROCEEDINGS.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THURSDAY, OCTOBER, 20, 1892.

HENRY POWERS, F. R. C. S., President in the Chair.

ON DEFECTS OF THE IRIS IN RELATION TO GLAUCOMA.

Mr. Treacher Collins gave a lantern slide demonstration of the microscopical character of three eyes with defects of the iris: (1) congenital absence of the iris and opacities in the lens; (2) congenital coloboma of the iris and lens outwards, with glaucoma; (3) traumatic aniridia and glaucoma. In the first specimen the ciliary body ended in a rudimentary iris in its entire circumference, although none could be seen before removal of the globe. On one side of the section a small piece of the sphincter muscle was present; on the other no such structure could be made out. The uveal pigment on the back of the iris ended at the pupillary border in a double fold, and there were abnormal adhesions between the ligamentum pectinatum and the root of the iris, and remnants of the pupillary membrane. Besides other opacities in the lens, there was one at its anterior pole raised above the surface and evidently due to subcapsular proliferation of the lining epithelium.

Mr. Collins thought the arrest of development of the iris, as well as the other changes found in this eye, could be explained, as suggested by Manz, by an abnormal adhesion or late separation of the lens and cornea, which mechanically prevented the growth inwards of the iris. He pointed out that there was

quite sufficient iris in this case to block the whole filtration area, should it have become pushed forwards, and that it was therefore quite possible for eyes in which no iris could be seen to become glaucomatous.

In the second case the filtration area in the region of the coloboma of the iris was found closed in more than half its extent by a small process with a double layer of pigment on its posterior surface, in which the ciliary body terminated. The ciliary processes opposite the cleft in the lens were directed backwards. This he thought due to the absence of any forward traction by the fibres of the suspensory ligament, which were probably wanting in that position.

In the third case there had been a wound of the cornea, through which the whole of the iris and a great portion of the lens had escaped eight and a half months previous to excision. The eye became glaucomatous, with a deeply cupped nerve. There was a broad adhesion of the lens capsule to the corneal cicatrix. The advanced position the lens had thus taken up had drawn forward the ciliary processes, so that the most anterior of them were in contact with the cornea and blocked the filtration area.

DOUBLE NEURO-RETINITS AFTER INFLUENZA.

Mr. Hartridge reported this case. The patient, a girl, aged 16, suffered from a severe attack of influenza in May, 1892, and a second but less serious attack in June, 1892. The latter illness was quickly followed by gradual and progressive failure of vision. The acuteness of vision is now $^{6}/_{XVIII}$ in each eye, with correction of some astigmatism. The patient has suffered during the past six weeks from constant headache on the right side. The optic discs are white, blurred, and rather swollen; arteries slightly diminished in size, veins somewhat tortuous, white lines along some of the large vessels, numerous bright scattered patches in the macular region, no hemorrhages. There has been no evidence of renal disease; the patient is decidedly anemic, but well nourished.

Messrs. Doyne, Hodges, and Juler referred to cases they had seen in which the ophthalmoscopic appearances closely resembled those present in Mr. Hartridge's patient, and in which there was a history of antecedent influenza.

Dr. James Taylor thought that in Mr. Hartridge's case the evidence as to influenza was not very definite, and suggested that the symptoms mentioned and the ophthalmoscopic appearances might be indicative of cerebellar disease.

Mr. Richardson Cross gave a brief account of three cases of optic nerve disease following attacks of influenza. In one the optic nerves were inflamed; in the other two they were, when seen by Mr. Cross, in an atrophic stage. All three patients were females, aged 20, 25, and 50 respectively. He felt satisfied that optic neuritis was occasionally caused by influenza.

Mr. Tweedy spoke of one of Mr. Gross's patients, whom he had also seen. He was of opinion that influenza bore a casual relation to some cases of neuritis, and not of the optic nerves alone. He had seen cases of paralytic strabismus following influenza which he thought were caused by a neuritis of the motor branches supplying the ocular muscles.

THE OPTICAL CONDITION OF FIFTY PERSONS WHO WERE FREE FROM ANY OCULAR DISTURBANCE.

Mr. Work Dodd read notes of observations on the sight of fifty individuals who had made no complaint concerning their eyes. The principal points brought out by his investigation were as follows: The average interpupillary distance, measured with a steel metric measure, the eyes being directed to infinity, was 6.012 centimetres. The average convergence, measured from the punctum remotum by means of graduated prisms, was 1.24 metre angles; and for the punctum proximum, by the ophthalmo-dynamometer of Landolt, 10.86 centimetres; the amplitude of convergence being 11.08 metre angles. The punctum proximum of accommodation ascertained by the same instrument was for the right eye 10.10 centimetres, and for the left 10.38 centimetres; the amplitude of accommoda-

tion for the right eye 12.53 dioptres, and for the left eye 12.50 dioptres. The punctum proximum being nearer to the right eye in 24 cases, to the left in 15, and equal in 11. The amplitude was greater in the right eye in 28 cases, in the left eye in 17, and equal in 5. The visual acuteness and refraction, both before and after mydriasis, were obtained by means of Snellen's distant type and the ordinary trial lenses. Visual perception, before mydriasis, was more acute in the right eye in 15 cases, in the left eye in 12, and was equal in 23. After mydriasis it was more acute in the right eye in 15 cases, in the left in 14, and was equal in 21. The amount of ametropia preponderated slightly in the left eye. There was simple hypermetropia in 39 instances, and myopia in 1. Simple hypermetropic astigmatism existed in 1 case, and compound hypermetropic astigmatism in 4; 4 also were anisometropic. The oculation was dexter in 24 cases, sinister in 15, and indifferent in 1. This last point was determined by directing the patient to fix his eyes on a distant object, and then to hold up a small key or finger-ring at arm's length, so that he looked through it at the object. The ring in any case would be placed in the line of fixation of one particular eye, and the closing of that eye would make the ring appear to move quickly to that side, away from the object; while, on the other hand, the closing of the other eye would have no effect. To prevent the choice of hand exercising any influence on the experiment, the left was employed first in right-handed subjects, and *vice versa*, but without modifying the result. The choice of eye being apparently determined by the absence of ametropia and the greater visual acuteness in one eye more frequently the right.

LIVING AND CARD SPECIMENS.

Mr. Powor—Recurrent Spindle-celled Sarcoma of Lacrymal Gland.

Mr. Juler—I. Melanotic Tumor in Ciliary Region; 2. Retinal Hemorrhage.

Mr. Doyne—1. Unusual Form of Keratitis; 2. Recovery from Albuminuric Retinitis of Pregnancy; 3. Atrophy of Lacrymal Gland.

Mr. Morton—Drawing of Cyst of the Iris.

Mr. Beaumont—Neoplasm (? Sarcoma) of Iris.

THURSDAY, NOVEMBER 10, 1892.

CONJUNCTIVITIS SET UP BY FLIES.

Dr. Berry (Edinburgh) read notes of two cases:

1. An old man in whom severe inflammation of the conjunctiva, accompanied by extensive ulceration of the cornea, came on within twenty-four hours of his having been stung in the eye by a fly which had apparently risen from a dunghill. In addition to the local disease there was a marked general prostration, and the patient remained in a feeble state of health for months afterward. The whole course of the case seemed to indicate that the poison carried by the fly had produced the local inflammation and also some general poisoning.

2. A man, aged 20, in whom acute swelling of the right eyelid and conjunctiva came in two days after a fly had got into his eye. The inflammation soon became unmistakably diphtherial, and led to complete destruction of the cornea and very serious general symptoms. Dr. Berry was not prepared to state positively that the diphtherial poison was introduced by the fly, yet the rapidity with which the symptoms followed the accident he thought was at least suggestive.

Mr. Caiger related a case he had seen at Moorfields Hospital, which was, he thought, in some respects analogous to the cases mentioned by Dr. Berry. It was that of a stableman who was struck in the eye by a worm from the intestines of a horse. When he came to the hospital a few hours later there was very marked chemosis of the conjunctiva, which gradually subsided. Mr. Craiger thought this might have been due to the introduction of some poisonous material contained in the excreta of the horse.

HYPERPLASTIC SUBCONJUNCTIVITIS.

Dr. Berry described a group of cases under the above title. In these cases a hard swelling could be felt occupying the tissues below the conjunctival fold of the lower lid. This was in some instances associated with the irritation and discomfort common to chronic conjunctivitis. Dr. Berry thought, from clinical experience, that the subconjunctival infiltration originated at a time when the conjunctiva was inflamed, and, for some reason, was not altogether absorbed afterward, although the overlying conjunctiva regained its normal condition. And, moreover, an independent hyperplasia might arise in this more or less organized deposit, causing it to swell to a greater or less extent, and to be accompanied by symptoms of irritation. In pronounced cases, the conjunctivitis was often very slight, although chemosis and swelling of the preauricular gland might be present.

Mr. Lawford thought he recognized the condition described by Dr. Berry as hyperplastic subconjunctivitis. He asked if Dr. Berry had met with it more commonly in old or young patients, or in connection with any dyscrasia, and would be glad to know what plan of treatment he had found most suitable.

In reply, Dr. Berry said that hyperplastic subconjunctivitis was generally met with in adults; chronicity was one of its chief characteristics. In one instance in which he had given salicin, thinking the condition mignt be rheumatic in nature, improvement had ensued.

INTRAOCULAR INJECTION OF ANTISEPTIC SOLUTIONS.

Dr. Berry gave an account of some facts elicited during experiments on rabbits, undertaken by his assistant, Dr. Chassaud, with the object of ascertaining the effect of different solutions injected into the vitreous. In some cases, before injecting the antiseptic, the vitreous was inoculated with fresh septic pus. The only substance injected after the inoculation

which seemed capable of preventing purulent hyalitis was chlorine water. At the same time this injection was much better tolerated by the retina and vitreous than any other strong antiseptic solution. In two cases of purulent hyalitis in men, chlorine water injected into the vitreous led to immediate improvement, and the eyes were saved, although sight had been lost before the treatment was adopted.

Dr. Hill Griffith (Manchester) suggested that the trichloride of iodine promised to be very suitable for intra-ocular injection. It was said to be non-irritating and to become decomposed in the tissues into free chlorine and iodine.

Mr. Hartridge thought that cases frequently occurred in which the injection of antiseptic and germicidal solutions into the eye seemed most desirable, and, if it were shown that this treatment could be safely adopted, we might oftentimes save which now had to be removed.

Mr. Doyne referred to one case in which he had injected boric acid solution into the anterior chamber, and in which arrest of suppuration had resulted.

In replying to these remarks Dr. Berry thought it probable that in the use of intra-ocular injections a distinct advance in ocular therapeutics might be made. He pointed out that injections into the anterior chamber and into the vitreous could scarcely be compared. He had frequently used solutions of perchloride of mercury to wash out the aqueous chamber, but usually with resulting opacity of cornea. The opacity he had noticed to occur less markedly in children than in adults.

INTRAOCULAR ABSORPTION OF IODOFORM.

Dr. Berry recorded a case in which, after extraction of senile cataract, he applied iodoform freely to the wound. On examining the eye next day the anterior chamber was found to be filled to the extent of apparently two-fifths of its capacity with iodoform, and the rest of the aqueous to be turbid. At some parts caked portions of iodoform could be seen plastered as it were upon the iris. The iodoform was gradually absorbed

without causing any great irritation. In a fortnight no trace of it could be seen, and the result of the operation was good. Although he had very frequently applied iodoform after removal of cataract, he had never known it penetrate to the anterior chamber; he thought the fact that it could thus undergo absorption one of interest.

LIVING AND CARD SPECIMENS.

Mr. Stanford Morton—Cyst of Iris.

Mr. John Griffith—Rupture of Sclera Without Marked Defect of Sight.

Mr. Hartridge—1. Multiple Ruptures of Choroid; 2. Case of Aniridia.

Dr. Work Dodd—Case of Aniridia.

SELECTIONS.

NYSTAGMUS.

BY HAROLD N. MOYER, M. D.

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The diagnostic relations of nystagmus while not as important, because not so frequent, as other disturbances about the eye, are still sufficient to merit passing mention. Our standard text-books on nervous diseases present a rather wide divergence as to its significance. If we divest ourselves of the view that nystagmus is in some peculiar manner associated with central nervous disease, in much the same way as optic atrophy or papillary changes are; and will regard this condition as an example of hyperkinesis analogous in many respects to other forms of tremor and rhythmical spasm we shall arrive at a much more correct understanding of its diagnostic relations.

Buzzard[1] evidently regards nystagmus as a very grave symptom. In his article on simulation of hysteria, in dealing with the subject of insular sclerosis, he says that were the ophthalmoscope shows atrophy of the disc a diagnosis of functional disorder must be discarded, and the same must be said of nystagmus.

In this view he is evidently mistaken, for no case of simple spasm of a muscle can ever be said to have the same organic basis as one involving paralysis or atrophy of a peripheral nerve. Unquestionably nystagmus is rare in hysteria, but

[1]Dictionary of Psychological Medicine, page 1163.

cases have been reported, notably those by Hogyes,[1] in which the symptom could be produced at will in certain hystero-epileptics.

Nystagmus is essentially a neurosis, and the changes which produce this condition are to be found in the nerve trunks or centers. Its value as a sign of central nervous disease lies, therefore, in the anatomical relations of the nerves and centers governing the movements of the extrinsic muscles of the eye ball.

Ross[2] divides all of these cases into two classes, local and central. To the first he assigns those cases dependent upon congenital defects of the optic nerve and retina, pigmentary retinitis, congenital cataract and corneal opacities. The second class he regards as due almost invariably to disease of the cerebellar peduncles, though he mentions basilar meningitis, hydrocephalus and other intra-cranial processes as occasionally giving origin to the symptom. It is apparent from his description that, like Buzzard, he regarded this condition when not associated with gross defect in the eye-ball as almost certainly indicative of organic cerebral disease. Again he says that nystagmus is always bilateral, though Banham[3] presented to the Sheffield Medico-Chirurgical Society a case of uniocular nystagmus, in a patient affected with a cerebral tumor involving the peduncle and pons.

It is apparent that a classification into local and central is inadequate as is also the view that the condition is always dependent upon changes in the eye-ball or organic disorders of the brain. That the disease may be "functional" is attested by the hysterical cases of Hogyes and by one of my own patients. The latter was a man 45 years of age, actively engaged in literary pursuits, and the administration of a public office. He was of temperate habits, but used tobacco moderately and the lighter wines with meals. Some six years ago

[1]Orvosi Hetilap—Centralblatt f. Nervenheilkunde. 1886.

[2]The Diseases of the Nervous System. Vol. I. 333.

[3]British Medical Journal, 1885.

he was suddenly affected with marked horizontal nystagmus. There were no other symptoms of nervous trouble, no change in the fundus of the eye, or in the accomodation, a slight degree of presbyopia having appeared some years before. The nystagmus persisted for some months and gradually disappeared; the patient has since remained in good health.

Dennett[4] advances an ingenious theory to account for nystagmus observed in anomalies of the refractive media or from faults of development or diseased conditions of the retina or percipient apparatus. The visual power being greatly impaired in these cases the motion is attributed to the effort of the patient to compensate for the impaired function by obtaining the image on two parts of the retina at nearly the same time. This ingenious explanation is suggested by the fact that amblyopic patients can distinguish objects that are moving with greater distinctness than when at rest. Again, in looking at some fixed point, say a star, we are able to distinguish it with greater clearness if for an instant we look a little to one side.

This explanation, while it satisfactorily accounts for the condition when due to pigmentary retinitis, or opacities of the and lens, does not suggest the origin of the condition in the following case: S. C., a German, 34 years of age, presented himself at the clinic for nervous diseases, of the Central Free Dispensary, he did not come for treatment, but accompanied his wife. He was noticed to have marked nystagmus, which he said had existed since his earliest recollection. The movements were mainly horizontal, but occasionally slight rotation could be observed. The spasm increased as the near point receded or the vision was fixed upon a distant object. When the eyes were focused upon a point ten inches from the face all movements ceased. The pupils were normal, as were the refracting media and the eye grounds. Vision was excellent, though the patient complained of fatigue after reading a considerable time.

[4]Reference Handbook Vol. V. 270.

In this patient the condition was congenital and must be referred to some want of development in the nerve centers governing the movements of the eyes.

A brief study of nystagmus shows that it occurs in a variety of conditions, the more important of which are:

1. Congenitally defective vision, microphthalmus, coloboma, etc.

2. Congenital defect in the motor nervous apparatus without impairment of vision.

3. Occasionally in functional nervous disorders.

4. As an essential condition disconnected from all other diseases of the nervous system.

5. In certain occupations, notably colliers, who work with the eyes in a constrained position. In these cases the trouble seems to be related to the neural disorders of artisans, and tends towards recovery on change of employment.

6. Associated with disseminated sclerosis, Friedreich's disease and rarely with locomotor ataxia.

7. Accompanying various pathological changes along the base of the brain and in the medulla and pons.—*North Am. Pract.*

SYMPATHETIC OPHTHALMIA.

BY PROFESSOR PANAS.

GENTLEMEN.—Our patient is forty-three years of age, in good health, with no venereal antecedents. In fact, with no symptoms or history of any kind that would lead you to correct diagnosis. Two years ago, in stooping to pick up the branch of a tree, he received a contusion of the right eye without any wound. The sight was lost at this time, but it gradually returned, and then was lost again. In June last he began to see floating objects before his left eye, and photo-

phobia developed. The inflammation was slight, but the vision of the eye was in danger, as the visual field was found narrowed in a concentric direction, some ten to fifteen degrees. If you examine his right eye, the one that was first attacked, you will find that the pupil is large and widely dilated. The iris looks like a small ring, this paralysis must not be placed to the account of the amblyopia, for it is a true iridoplegia. And there is besides iridodonesis, which prove that the crystalline body is not in the right place; there is, in fact, a subdislocation of the crystalline lens, caused by the rupture of the capsule. At the back of the eye a glaucomatous excavation is seen, and all the vessels of the retina are pushed over to the nasal side. The tonus is only slightly raised. There can be no doubt that the excavation is caused by the compression and atrophy of the optic nerve. The eye shows no exudation or inflammation,—nothing at all, in fact, to indicate an inflammatory complication. The left eye, however, presents a trace of inflmmation, as we find a deposit of pigment there. With the aid of the ophthalmoscope you can see opacities of the vitreous body, but through this foggy appearance you can perceive indistinctly the papilla and around it some discolored plaques in the choroid. From this we conclude that a subacute inflammation of the neuroepithelial coat of the retina and of the iris exists. This, then, is a case of *sympathetic ophthalmia*, an affection whose evolution is as yet but poorly understood. It is, however, a very important condition, a knowledge of which is essential, not only to an ophthalmologist, but also to every doctor who may be called upon to treat a wounded person or give a medico-legal certificate.

Sympathetic ophthalmia occupied the attention of many ancient writers, but up to Mackenzie's times nothing of importance had been done. He supposed that the optic nerve and tracts were the means by which the inflammation was propagated to the other eye, and advised enucleation as the best means of treatment. Other authors concluded that the ciliary nerves were a fault. The belief they based on the

clinical fact, that all wounds having their seat in the ciliary nerves predisposed the person to sympathetic ophthalmia, while the wounds of other parts of the eye—the cornea, for instance—are very rarely followed by sympathetic ophthamia. I have only once seen it follow an operation for cataract.

Another important fact is that the traumatisms of the ciliary region will cause sympathetic ophthalmia, whether the wound be an open one or not, so that it is not correct to suppose that the infection which causes it must necessrily come from without. Our patient is a living proof that the pathogenic cause did not come from outside his eye. The commotion of the ciliary region with the paralysis of the iris and rupture of the zonule were not accompanied by any solution of continuity. The pathogenic part taken by the ciliary region has been attributed to the presence of a great number of sensory ciliary nerves, which give rise to reflex vaso-dilating action. This is the prevalent opinion of such writers as Rondeau and Reclus.

With Pasteur's discoveries, bacteriology aided in deciding the question, Leber and after Deutschmann, guided by the ophthalmoscope and their anatomical studies, seemed to return to Mackenzie's theory, and stated that the inflammation was transmitted from one eye to the other by means of the optic nerve, from which they called it "*ophthalmia migratoria;*" to prove it, they injected into one eye of the rabbit a culture of the pyogenic microbe, and they claimed that the inflammation was propagated to the other eye by the optic tract. But these experiments have been done many time since, and the results are not at all sure, so that we must not accept this theory as proved. At the last congress at Heidelberg Schmidt, Pflueger, Laqueur, and others spoke against it. If we cannot accept this theory, we certainly cannot admit the advisability of an operation or attempts to prevent sympathetic ophthalmia by section of the optic nerve or resection combined with abrasion of the ciliary nerves and vessels.

We can add that this operation often results in a hæmatoma of the orbit, marked protrusion of the globe, and death by

meningitis, and that this happens much more often than has been said or written. For these reasons I remain convinced that the best thing to do is to resort to enucleation as the most reliable means of preventing sympathetic ophthalmia. This operation done under antiseptic methods is the best treatment for such patients.

I do not mean that it is the only thing that can be done, but simply that such a surgical operation is not harmful in itself and it has given the best result as a preventive treatment against this trouble. But once you have the sympathetic ophthalmia started you cannot hope to cure it by operation. The mercurial treatment must then be employed. This can be done by rubbing the ointment into the eye, or by hypodermic injections. I have reported a number of cases treated in this way. I must also mention in this connection the treatment proposed by Drs. Abadie and Darier, who make intra-ocular injections of a solution of one to one thousand of corrosive sublimate, combined with the use of the actual cautery; applications to the site of the wound with thermo-cautery may also be employed. This method is still, however, under trial as to its merits. It may be good when the eye is not completely lost, and when the mercurial treatment has had no effect.—*International Medical Magazine.*

NEWS.

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